

Supplementary results

Predictive effect of pupil size on force replication

Force replication: gf2

Force during first contraction: gf1

Orthogonal second degree Polynomial of pupil size: pu

Linear term: pu1

Quadratic term: pu2

Subject index: sujet

Session number: sessions

Random effects are selected manually before running glmulti, by gradually adding parameters until the improvement in deviance is no longer significant, according to a chi square test.

Best model:

Linear mixed model fit by maximum likelihood

Formula: gf2 ~ 1 + gf1 + pu + pu:gf1

Data: data

AIC	BIC	logLik	deviance	REMLdev
5821	5905	-2897	5795	5802

Random effects:

Groups	Name	Variance	Std.Dev.	Corr
suj	(Intercept)	0.09009325	0.300155	
	gf1	0.00782822	0.088477	0.594
sessions	(Intercept)	0.00190016	0.043591	
	gf1	0.00092512	0.030416	-0.233
Residual		0.18767782	0.433218	

Number of obs: 4887, groups: sujet, 12; sessions, 3

Fixed effects:

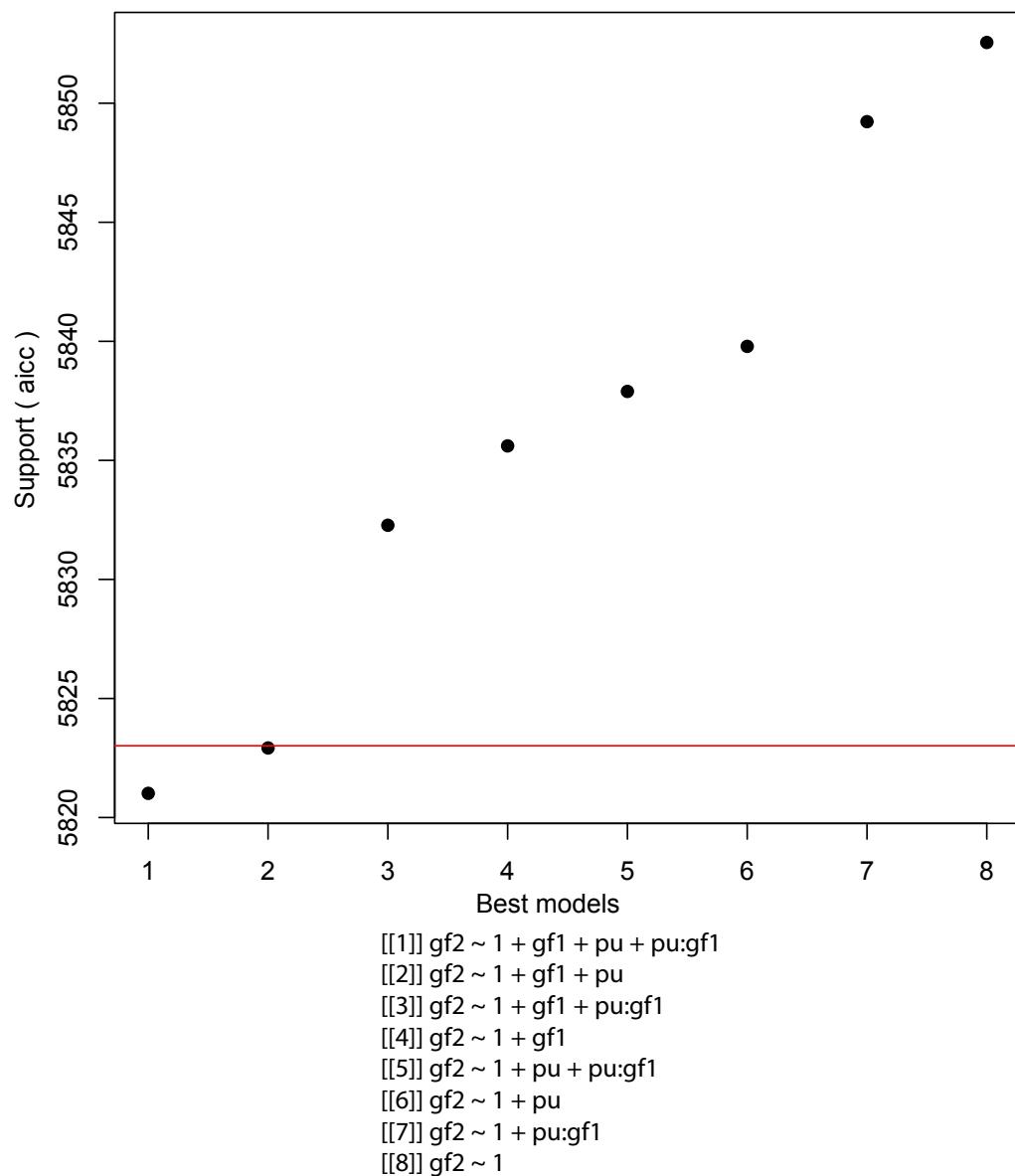
	Estimate	Std. Error	t value	p value
(Intercept)	-0.007542	0.090462	-0.083	4.7e-01
gf1	0.792212	0.031730	24.967	4.0e-122 ***
pu1	1.727249	0.454321	3.802	7.1e-05 ***
pu2	0.362119	0.451071	0.803	2.1e-01
gf1:pu1	0.214083	0.462001	0.463	3.2e-01
gf1:pu2	-1.178948	0.506160	-2.329	1.0e-02 *

Signif. codes: ***: 0.0 - 0.001; **: 0.001 - 0.01; *: 0.01 - 0.05; .: 0.05 - 0.1

Correlation of Fixed Effects:

	(Intr)	gf1	pu1	pu2	gf1:p1
gf1	0.422				
p1	-0.001	-0.025			

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p2      0.000 0.011 -0.033  
gf1:p1 -0.006 0.001 0.017  0.044  
gf1:p2  0.002 0.007 0.020  0.199  0.107
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Predictive effect of pupil size on RPE

RPE: rpe

Force during first contraction: gf1

Orthogonal second degree Polynomial of pupil size: pu

Linear term: pu1

Quadratic term: pu2

Subject index: sujet

Session number: sessions

Random effects are selected manually before running glmulti, by gradually adding parameters until the improvement in deviance is no longer significant, according to a chi square test.

Best model:

Linear mixed model fit by maximum likelihood

Formula: rpe ~ 1 + gf1 + pu + pu:gf1

AIC	BIC	logLik	deviance	REMLdev
2691	2746	-1334	2669	2669

Random effects:

Groups	Name	Variance	Std.Dev.	Corr
sujet	(Intercept)	0.092397	0.303969	
	gf1	0.047431	0.217787	0.213
sessions	(Intercept)	0.005424	0.073648	
Residual		0.605318	0.778022	

Number of obs: 1117, groups: sujet, 12; sessions, 3

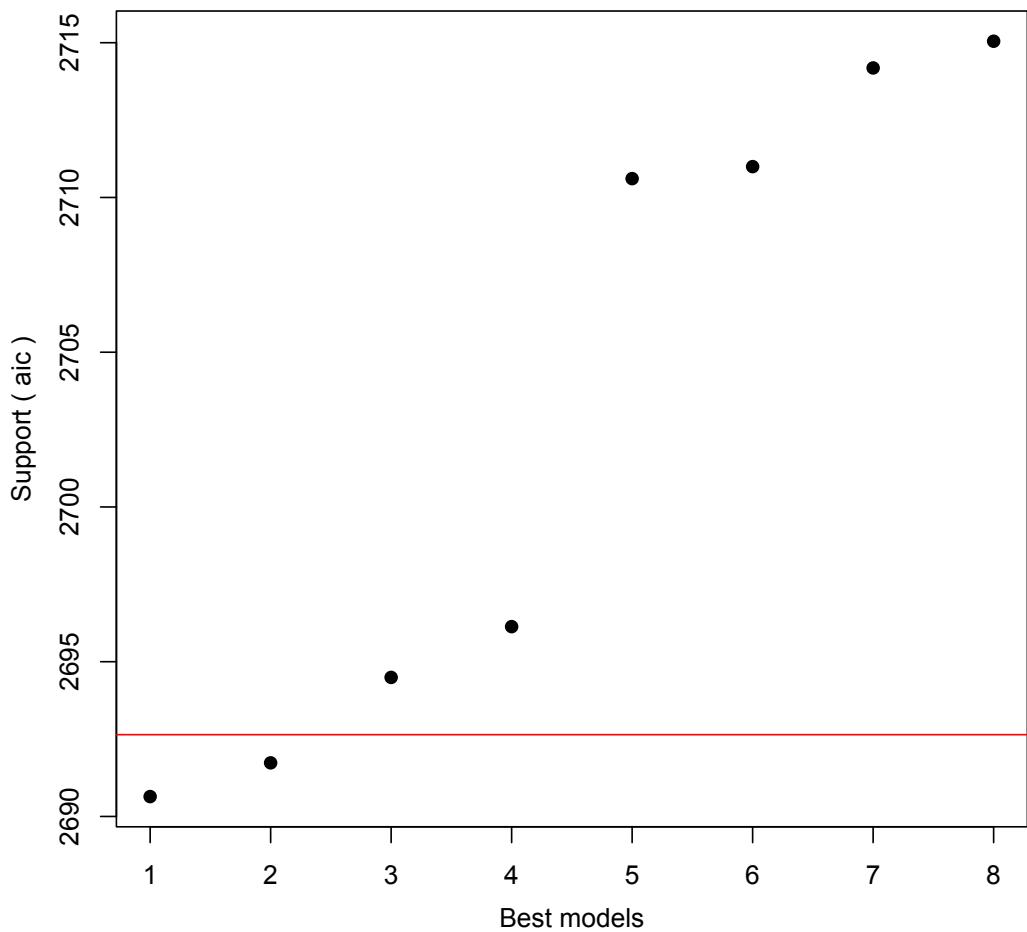
Fixed effects:

	Estimate	Std. Error	t value	p value
(Intercept)	0.004158	0.100486	0.041	0.48350
gf1	0.540884	0.067828	7.974	7.7e-16 ***
pu1	1.105151	0.833555	1.326	0.09249 .
pu2	1.936544	0.797984	2.427	0.00762 **
gf1:pu1	1.229568	0.849970	1.447	0.07400 .
gf1:pu2	-1.275963	0.792258	-1.611	0.05364 .

Signif. codes: ***: 0.0 - 0.001; **: 0.001 - 0.01; *: 0.01 - 0.05; . : 0.05 - 0.1

Correlation of Fixed Effects:

	(Intr)	gf1	pu1	pu2	gf1:pu1
gf1	0.178				
pu1	-0.004	-0.052			
pu2	0.004	0.023	-0.037		
gf1:pu1	-0.025	-0.009	0.038	-0.057	
gf1:pu2	0.005	0.002	-0.057	0.064	0.090



[[1]] rpe ~ 1 + gf1 + pu + pu:gf1
[[2]] rpe ~ 1 + gf1 + pu
[[3]] rpe ~ 1 + gf1 + pu:gf1
[[4]] rpe ~ 1 + gf1
[[5]] rpe ~ 1 + pu + pu:gf1
[[6]] rpe ~ 1 + pu
[[7]] rpe ~ 1 + pu:gf1
[[8]] rpe ~ 1

Effect of pupil size on acceptance rate

Acceptance rate: accepted

Force during first contraction: gf1

Reward proposer: r

Orthogonal second degree Polynomial of pupil size: pu

Subject index: sujet

Session number: sessions

Random effects are selected manually before running glmulti, by gradually adding parameters until the improvement in deviance is no longer significant, according to a chi square test.

Best model:

Generalized linear mixed model fit by the Laplace approximation

Formula: accepted ~ 1 + r + pu + gf1 + pu:r

AIC BIC logLik deviance

3069 3208 -1514 3029

Random effects:

Groups	Name	Variance	Std.Dev.	Corr
sujet	(Intercept)	7.01415	2.64842	
	gf1	0.55751	0.74666	-0.391
	r	6.56840	2.56289	0.791 -0.469
	gf1:r	0.49108	0.70077	-0.304 0.976 -0.499
sessions	(Intercept)	1.34185	1.15838	
	r	0.54677	0.73944	0.988

Number of obs: 7825, groups: sujet, 12; sessions, 3

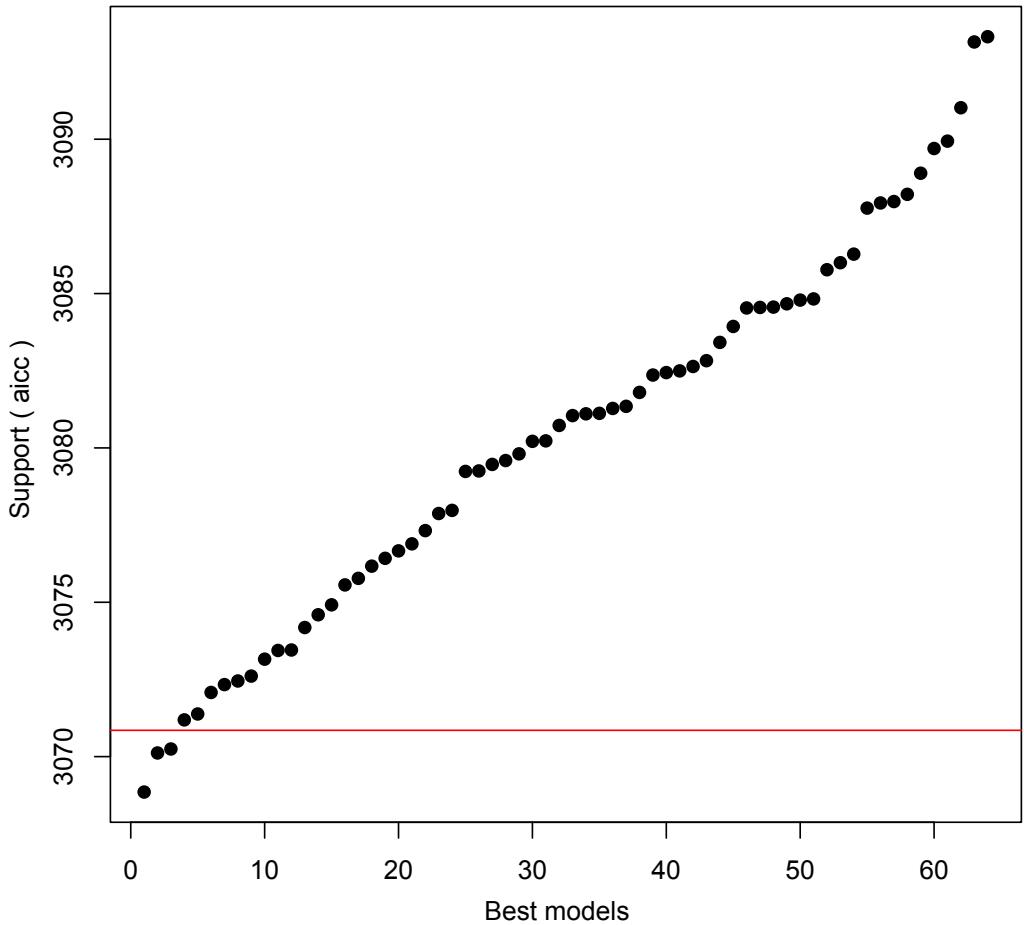
Fixed effects:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	5.02130	1.01173	4.963	6.94e-07 ***
r	5.01939	0.80993	6.197	5.74e-10 ***
p1	-17.85027	6.69997	-2.664	0.00772 **
p2	2.53042	6.46601	0.391	0.69554
gf1	-0.39461	0.07611	-5.185	2.16e-07 ***
r:p1	-9.46369	7.15215	-1.323	0.18577
r:p2	13.16030	7.58149	1.736	0.08259 .

Signif. codes: ***: 0.0 - 0.001; **: 0.001 - 0.01; *: 0.01 - 0.05; .: 0.05 - 0.1

Correlation of Fixed Effects:

	(Intr)	r	p1	p2	gf1	r:p1
r	0.845					
p1	-0.017	-0.026				
p2	0.004	0.006	-0.082			
gf1	-0.233	0.002	-0.008	0.004		
r:p1	-0.018	-0.028	0.736	-0.078	0.049	
r:p2	0.003	0.008	-0.079	0.674	0.013	0.016



- | | |
|---|--|
| [[1]] accepted ~ 1 + r + pu + gf1 + pu:r | [[33]] accepted ~ 1 + gf1 + pu:r |
| [[2]] accepted ~ 1 + r + pu + gf1 + pu:r + gf1:r | [[34]] accepted ~ 1 + r + pu:r |
| [[3]] accepted ~ 1 + r + pu + gf1 | [[35]] accepted ~ 1 + pu + pu:r + gf1:r |
| [[4]] accepted ~ 1 + r + pu + gf1 + pu:r + gf1:pu | [[36]] accepted ~ 1 + r |
| [[5]] accepted ~ 1 + r + pu + gf1 + gf1:r | [[37]] accepted ~ 1 + gf1 |
| [[6]] accepted ~ 1 + r + gf1 + pu:r | [[38]] accepted ~ 1 + pu + gf1 + pu:r + gf1:r + gf1:pu |
| [[7]] accepted ~ 1 + r + gf1 | [[39]] accepted ~ 1 + r + pu + gf1:pu |
| [[8]] accepted ~ 1 + r + pu + gf1 + pu:r + gf1:r + gf1:pu | [[40]] accepted ~ 1 + pu + gf1 + gf1:pu |
| [[9]] accepted ~ 1 + r + pu + pu:r + gf1:r | [[41]] accepted ~ 1 + gf1 + pu:r + gf1:r |
| [[10]] accepted ~ 1 + r + gf1 + pu:r + gf1:r | [[42]] accepted ~ 1 + pu + gf1:r |
| [[11]] accepted ~ 1 + r + gf1 + gf1:r | [[43]] accepted ~ 1 + gf1 + gf1:r |
| [[12]] accepted ~ 1 + r + pu + gf1 + gf1:pu | [[44]] accepted ~ 1 + pu + pu:r + gf1:r + gf1:pu |
| [[13]] accepted ~ 1 + r + pu + gf1:r | [[45]] accepted ~ 1 + pu + gf1 + pu:r + gf1:r + gf1:pu |
| [[14]] accepted ~ 1 + r + pu + gf1 + gf1:r + gf1:pu | [[46]] accepted ~ 1 + gf1 + pu:r + gf1:pu |
| [[15]] accepted ~ 1 + r + pu + pu:r + gf1:r + gf1:pu | [[47]] accepted ~ 1 + pu:r + gf1:r |
| [[16]] accepted ~ 1 + r + gf1 + pu:r + gf1:pu | [[48]] accepted ~ 1 + r + pu:r + gf1:pu |
| [[17]] accepted ~ 1 + r + gf1 + gf1:pu | [[49]] accepted ~ 1 + r + gf1:pu |
| [[18]] accepted ~ 1 + r + pu:r + gf1:r | [[50]] accepted ~ 1 + gf1 + gf1:pu |
| [[19]] accepted ~ 1 + r + gf1:r | [[51]] accepted ~ 1 + gf1:r |
| [[20]] accepted ~ 1 + r + gf1 + pu:r + gf1:r + gf1:pu | [[52]] accepted ~ 1 + pu + gf1:r + gf1:pu |
| [[21]] accepted ~ 1 + r + gf1 + gf1:r + gf1:pu | [[53]] accepted ~ 1 + gf1 + pu:r + gf1:r + gf1:pu |
| [[22]] accepted ~ 1 + r + pu + gf1:r + gf1:pu | [[54]] accepted ~ 1 + gf1 + gf1:r + gf1:pu |
| [[23]] accepted ~ 1 + pu + gf1 + pu:r | [[55]] accepted ~ 1 + pu + pu:r |
| [[24]] accepted ~ 1 + r + pu + pu:r | [[56]] accepted ~ 1 + pu |
| [[25]] accepted ~ 1 + pu + gf1 | [[57]] accepted ~ 1 + pu:r + gf1:r + gf1:pu |
| [[26]] accepted ~ 1 + r + pu | [[58]] accepted ~ 1 + gf1:r + gf1:pu |
| [[27]] accepted ~ 1 + pu + gf1 + pu:r + gf1:r | [[59]] accepted ~ 1 + pu + pu:r + gf1:pu |
| [[28]] accepted ~ 1 + r + pu:r + gf1:r + gf1:pu | [[60]] accepted ~ 1 + pu:r |
| [[29]] accepted ~ 1 + r + gf1:r + gf1:pu | [[61]] accepted ~ 1 |
| [[30]] accepted ~ 1 + pu + gf1 + pu:r + gf1:pu | [[62]] accepted ~ 1 + pu + gf1:pu |
| [[31]] accepted ~ 1 + r + pu + pu:r + gf1:pu | [[63]] accepted ~ 1 + pu:r + gf1:pu |
| [[32]] accepted ~ 1 + pu + gf1 + gf1:r | [[64]] accepted ~ 1 + gf1:pu |